

CLAIMS

1. (previously presented): An article of manufacture for providing a separable and removable segment, label or coupon, comprising: (i) a first thin film layer having an upper surface with optional printed indicia and a lower surface with optional printed indicia which is permanent bond interface A; (ii) a second thin film layer having an upper surface and a lower surface, the upper surface being adhesively secured, directly, or through an underlying thin coated layer with optional printed indicia to the lower permanently bonded interface A of said lower surface of said first thin film layer (i) at a separable interface B; (iii) a paper or film substrate optionally printed with indicia laminated to the upper surface of the first thin film layer (i) with adhesive; (iv) an optional adhesive layer on the lower surface of second thin film layer (ii); (v) an optional releasable liner if a pressure sensitive adhesive is used as (iv); and (vi) a removable segment, label or coupon, having edges and being defined in said first thin film layer (i), by a diecut extending through said layers (iii), and (i) but not through said second thin film layer (ii) to form a removable diecut piece if the removable diecut piece is less than the total size of the removable segment, label or coupon and through second thin film layer (ii) if the removable diecut piece is the total size of the removable segment, label or coupon, wherein the removable diecut piece is provided with a pattern of selective variable adhesion through variable surface-treatment of the lower surface of said first thin layer (i) by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof, the upper surface of layer (ii) or both of said surfaces such that the adhesion at separable interface B is always less than the adhesion at

permanent interface A wherein said label or coupon is removable.

2. (original): An article as in claim 1, wherein the pattern of the differentially treated area extends under the removable area defined by the diecut.

3. (original): An article as in claim 1, wherein the film layer or layers comprise a polyester film, 0.2 to 7 mils thick.

4. (original): An article as in claim 1, wherein the substrate layer comprises paper stock of 15 to 150 # weight.

5. (canceled)

6. (previously presented): An article as in claim 1, wherein said treatment is carried out under conditions which produce a measurable differential of at least 1 dyne/cm, measured at the time of treatment.

7. (original): An article as in claim 1, wherein the pattern of the treated area covers from at least about 10 to about 90 percent of the surface and the untreated area covers from at least about 90 to about 10 percent of the surface.

8. (original): An article as in claim 7, wherein the pattern of the treated area covers from at least about 40 to about 60 percent of the surface and the untreated area covers from at least about 60 to about 40 percent of the surface.

9. (original): An article as in claim 1, wherein pattern of the treated area comprises a geometric form.

10. (original): An article as in claim 9, wherein said geometric form is selected from a saw-tooth, a sine-wave, a

herring-bone, a closed curve, a polygon, or any obvious equivalent thereof.

11. (original): An article as in claim 1, wherein the surface tension of the surface treatment is set to a predetermined level by increasing or decreasing the power of the treatment, by increasing or decreasing the exposure time of the treatment, or by increasing or decreasing the distance between the treatment source and the surface to which said treatment is applied.

12. (previously presented): A article of manufacture for providing a removable segment, label or coupon comprising: (i) a first thin film layer having an upper surface with optional printed indicia and a lower surface which is permanent bond interface A; (ii) a second thin film layer having an upper surface and a lower surface, the upper surface being adhesively secured, directly, or through an underlying thin coated layer to the lower permanently bonded interface A of said lower surface of said first thin film layer (i) at a separable interface B; (iii) a paper or film substrate optionally printed with indicia laminated to the upper surface of the first thin film layer; (iv) an optional adhesive layer on the lower surface of second thin film layer (ii); (v) an optional releasable liner (v) if a pressure sensitive adhesive is used as (iv); and (vi) a removable segment, label or coupon, having edges and being defined in said first thin film layer (i), and said second film layer (ii) by a diecut extending through said layers (iii), and (i) but not through said second thin film layer (ii) to form a removable diecut piece if the removable diecut piece is less than the total size of the removable segment, label or coupon and through second thin film layer (ii) if the removable piece is the total size of the label, wherein the removable diecut piece is provided with a pattern of selective variable adhesion through variable

surface-treatment of the upper surface of said first layer (i) by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof, the lower surface of layer (ii) or both of said surfaces such that the adhesion at separable interface B is always less than the adhesion at permanently-bonded interface.

13. (original): An article as in claim 12, wherein the pattern of the differentially treated area extends under the area defined by the diecut.

14. (original): An article as in claim 12, wherein the film layer or layers comprise a polyester film, 0.2 to 7 mils thick.

15. (original): An article as in claim 12, wherein the substrate layer comprises paper stock of 15 to 150 # weight.

16. (canceled)

17. (previously presented): An article as in claim 12, wherein said treatment is carried out under conditions which produce a measurable differential of at least 1 dyne/cm, measured at the time of treatment.

18. (original): An article as in claim 15, wherein the pattern of the treated area covers from at least about 10 to about 90 percent of the surface and the untreated area covers from at least about 90 to about 10 percent of the surface.

19. (original): An article as in claim 18, wherein the pattern of the treated area covers from at least about 40 to about 60 percent of the surface and the untreated area

covers from at least about 60 to about 40 percent of the surface.

20. (original): An article as in claim 12, wherein the pattern of the treated area comprises a geometric form.

21. (original): An article as in claim 20, wherein said geometric form is selected from a saw-tooth, a sine-wave, a herring-bone, a closed curve, a polygon, or any obvious equivalent thereof.

22. (original): An article as in claim 12, wherein the surface tension of the surface treatment is set to a predetermined level by increasing or decreasing the power of the treatment, by increasing or decreasing the exposure time of the treatment, or by increasing or decreasing the distance between the treatment source and the surface to which said treatment is applied.

23. (previously presented): An article of manufacture for providing a separable and removable segment, label or coupon, comprising: (i) a first thin film layer having an upper surface with optional indicia and a lower surface which is separable bond interface B; (ii) a second thin film layer having an upper surface and a lower surface, the upper surface being adhesively secured, directly, or through an underlying thin coated layer to the lower separable bonded interface B of said upper surface of second thin film layer (ii) at a permanent interface A; (iii) a paper or film substrate optionally printed with indicia laminated to the upper surface of the first thin film layer; (iv) an optional adhesive layer on the lower surface of second thin film later (ii); (v) an optional releasable liner pressure sensitive adhesive is used as (iv); and (vi) a removable segment, label or coupon, having edges and being defined in said first thin film layer (i), and said second film layer

(ii) by a diecut extending through said layers (iii), and (i) but not through said second thin film layer (ii) to form a removable diecut piece if the removable diecut piece is less than the total size of the removable segment, label or coupon and through second thin film layer (ii) if the removable piece is the total size of the removable segment, label or coupon, wherein the removable diecut piece is provided with a pattern of selective variable adhesion through variable surface-treatment of the upper surface of said first layer (i) by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof, the lower surface of layer (ii) or both of said surfaces such that the adhesion at separable interface B is always less than the adhesion at permanently-bonded interface A wherein said removable diecut piece is removable.

24. (original): An article as in claim 23, wherein the pattern of the differentially treated area extends under the removable area defined by the diecut.

25. (original): An article as in claim 23, wherein the film layer or layers comprise a polyester film, 0.2 to 7 mils thick.

26. (original): An article as in claim 23, wherein the substrate layer comprises paper stock of 15 to 150 # weight.

27. (canceled)

28. (previously presented): An article as in claim 23, wherein said treatment is carried out under conditions which produce a measurable differential of at least 1 dyne/cm, measured at the time of treatment.

29. (original): An article as in claim 23, wherein the pattern of the treated area covers from at least about 10 to about 90 percent of the surface and the untreated area covers from at least about 90 to about 10 percent of the surface.

30. (original): An article as in claim 29, wherein the pattern of the treated area covers from at least about 40 to about 60 percent of the surface and the untreated area covers from at least about 60 to about 40 percent of the surface.

31. (original): An article as in claim 23, wherein pattern of the treated area comprises a geometric form.

32. (original): An article as in claim 31, wherein said geometric form is selected from a saw-tooth, a sine-wave, a herring-bone, a closed curve, a polygon, or any obvious equivalent thereof.

33. (original): An article as in claim 23, wherein the surface tension of the surface treatment is set to a predetermined level by increasing or decreasing the power of the treatment, by increasing or decreasing the exposure time of the treatment, or by increasing or decreasing the distance between the treatment source and the surface to which said treatment is applied.

34. (previously presented): An article of manufacture having a removable segment, label or coupon comprising: (i) a first thin film layer having an upper surface with optional printed indicia and a lower surface which is separable bond interface B; (ii) a second thin film layer having an upper surface and a lower surface, the upper surface being adhesively secured, directly, or through an underlying thin coated layer to the lower separably bonded interface B of

said lower surface of said first thin film layer (i) at a permanent interface A; (iii) a paper or film substrate optionally printed with indicia laminated to the upper surface of the first thin film layer; (iv) an optional adhesive layer on the lower surface of second thin film layer (ii); (v) an optional releasable liner if a pressure sensitive adhesive is used as (iv); and (vi) a removable segment, label or coupon, having edges and being defined in said first thin film layer (i), by a diecut extending through said layers (iii), and (i) but not through said second thin film layer (ii) to form a removable diecut piece if the removable diecut piece is less than the total size of the removable segment, label or coupon and through second thin film layer (ii) if the removable diecut piece is the total size of the removable segment, label or coupon, wherein the removable diecut piece is provided with a pattern of selective variable adhesion through variable surface-treatment of the lower surface of said first layer (i) by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof, the upper surface of layer (ii) or both of said surfaces such that the adhesion at separable interface B is always less than the adhesion at permanent interface A and said removable diecut piece is removable.

35. (original): An article as in claim 34, wherein the pattern of the differentially treated area extends under the area defined by the diecut.

36. (original): An article as in claim 34, wherein the layer or layers comprise a polyester film, 0.2 to 7 mils thick.

37. (original): An article as in claim 34, wherein the substrate layer comprises paper stock of 15 to 150 # weight.

38. (canceled)

39. (previously presented): An article as in claim 34, wherein said treatment is carried out under conditions which produce a measurable differential of at least 1 dyne/cm, measured at the time of treatment.

40. (original): An article as in claim 34, wherein the pattern of the treated area covers from at least about 10 to about 90 percent of the surface and the untreated area covers from at least about 90 to about 10 percent of the surface.

41. (original): An article as in claim 40, wherein the pattern of the treated area covers from at least about 40 to about 60 percent of the surface and the untreated area covers from at least about 60 to about 40 percent of the surface.

42. (original): An article as in claim 34, wherein the pattern of the treated area comprises a geometric form.

43. (original): An article as in claim 42, wherein said geometric form is selected from a saw-tooth, a sine-wave, a herring-bone, a closed curve, a polygon, or any obvious equivalent thereof.

44. (original): An article as in claim 34, wherein the surface tension of the surface treatment is set to a predetermined level by increasing or decreasing the power of the treatment, by increasing or decreasing the exposure time of the treatment, or by increasing or decreasing the

distance between the treatment source and the surface to which said treatment is applied.

45. (previously presented): An article of manufacture for providing a separable and removable segment, label or coupon, comprising: (i) a paper or film substrate optionally printed with indicia having an upper and a lower surface laminated at a permanent interface A to the upper surface of; (ii) a thin film layer having an upper surface and a lower surface, the upper surface being adhesively secured, directly, or through an underlying thin coated layer to the permanent interface A of said lower surface of said paper or film substrate (i) at a separable interface B; (iii) an optional adhesive layer on the lower surface of said thin film layer (ii); (iv) an optional releasable liner if a pressure sensitive adhesive is used as (iv); and (v) a removable segment, label or coupon, having edges and being defined in said paper or film substrate optionally printed with indicia (i) and in said thin film layer (ii) by a diecut extending through said layer (i), but not through said thin film layer (ii) to form a removable diecut piece if the removable diecut piece is less than the total size of the removable segment, label or label and through thin film layer (ii) if the removable diecut piece is the total size of the removable segment, label or coupon, wherein the removable diecut piece is provided with a pattern of selective variable adhesion through variable surface-treatment of the upper surface of layer (ii) by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof such that the adhesion at separable interface B is always less than the adhesion at permanent interface A and said removable diecut piece is removable.

46. (original): An article as in claim 45, wherein the pattern of the differentially treated area extends under the removable area defined by the diecut.

47. (original): An article as in claim 45, wherein the layer or layers comprise a polyester film, 0.2 to 7 mils thick.

48. (original): An article as in claim 45, wherein the substrate layer comprises paper stock of 15 to 150 # weight.

49. (canceled)

50. (previously presented): An article as in claim 45, wherein said treatment is carried out under conditions which produce a measurable differential of at least 1 dyne/cm, measured at the time of treatment.

51. (original): An article as in claim 45, wherein the pattern of the treated area covers from at least about 10 to about 90 percent of the surface and the untreated area covers from at least about 90 to about 10 percent of the surface.

52. (original): An article as in claim 51, wherein the pattern of the treated area covers from at least about 40 to about 60 percent of the surface and the untreated area covers from at least about 60 to about 40 percent of the surface.

53. (original): An article as in claim 45, wherein pattern of the treated area comprises a geometric form.

54. (original): An article as in claim 53, wherein said geometric form is selected from a saw-tooth, a sine-wave, a herring-bone, a closed curve, a polygon, or any obvious equivalent thereof.

55. (original): An article as in claim 45, wherein the surface tension of the surface treatment is set to a predetermined level by increasing or decreasing the power of the treatment, by increasing or decreasing the exposure time of the treatment, or by increasing or decreasing the distance between the treatment source and the surface to which said treatment is applied.

56. (previously presented): An article of manufacture for providing a separable and removable segment, label or coupon, comprising: (i) a paper or film substrate optionally printed with indicia having an upper and a lower surface laminated at a permanent interface A to the upper surface of; (ii) a thin film layer having an upper surface and a lower surface, the upper surface being adhesively secured, to the permanent interface A of said lower surface of said paper or film substrate (i) at a separable interface B; (iii) an optional adhesive layer on the lower surface of said thin film layer (ii); (iv) an optional releasable liner if a pressure sensitive adhesive is used as (iv); and (v) a removable segment, label or coupon, having edges and being defined [[in]] by a diecut extending through said layer (i), but not through said thin film layer (ii) to form a removable diecut piece if the removable diecut piece is less than the total size of the removable segment, label or coupon and through thin film layer (ii) if the removable diecut piece is the total size of the removable segment, label or coupon, wherein the removable diecut piece is provided with a pattern of selective variable adhesion through variable surface-treatment of the upper surface of layer (ii) [[[]]] by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof such that the adhesion at separable

interface B is always less than the adhesion at permanent interface A and said removable diecut piece is removable.

57. (original): An article as in claim 56, wherein the pattern of the differentially treated area extends under the removable area defined by the diecut.

58. (original): An article as in claim 56, wherein the layer or layers comprise a polyester film, 0.2 to 7 mils thick.

59. (original): An article as in claim 56, wherein the substrate layer comprises paper stock of 15 to 150 # weight.

60. (canceled)

61. (previously presented): An article as in claim 56, wherein said treatment is carried out under conditions which produce a measurable differential of at least 1 dyne/cm, measured at the time of treatment.

62. (original): An article as in claim 56, wherein the pattern of the treated area covers from at least about 10 to about 90 percent of the surface and the untreated area covers from at least about 90 to about 10 percent of the surface.

63. (original): An article as in claim 62, wherein the pattern of the treated area covers from at least about 40 to about 60 percent of the surface and the untreated area covers from at least about 60 to about 40 percent of the surface.

64. (original): An article as in claim 56, wherein pattern of the treated area comprises a geometric form.

65. (original): An article as in claim 64, wherein said geometric form is selected from a saw-tooth, a sine-wave, a herring-bone, a closed curve, a polygon, or any obvious equivalent thereof.

66. (original): An article as in claim 56, wherein the surface tension of the surface treatment is set to a predetermined level by increasing or decreasing the power of the treatment, by increasing or decreasing the exposure time of the treatment, or by increasing or decreasing the distance between the treatment source and the surface to which said treatment is applied.

67. (previously presented): An article of manufacture for providing a separable and removable segment, label or coupon, comprising: (i) a paper or film substrate optionally printed with indicia having an upper and a lower surface laminated at a permanent interface A; to the upper surface of (ii) a thin film layer having an upper surface and a lower surface, the lower surface being adhesively secured through an underlying thin coated layer at a separable interface B; to the upper surface of (iii) a pressure sensitive adhesive layer on the upper surface of; (iv) a releasable liner; and (v) a removable segment, label or coupon, having edges and being defined in said thin film layer (ii), and in said pressure sensitive adhesive layer (iii) by a diecut extending through said layers (i) and (iii) wherein the removable diecut piece is provided with a pattern of selective variable adhesion through variable surface-treatment of the lower surface of layer (ii) by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof such that the adhesion at separable interface B is always less

than the adhesion at permanent interface A and said removable diecut piece is removable.

68. (original): An article as in claim 67, wherein the pattern of the differentially treated area extends under the removable area defined by the diecut.

69. (original): An article as in claim 67, wherein the layer or layers comprise a polyester film, 0.2 to 7 mils thick.

70. (original): An article as in claim 67, wherein the substrate layer comprises paper stock of 15 to 150 # weight.

71. (canceled)

72. (previously presented): An article as in claim 67, wherein said treatment is carried out under conditions which produce a measurable differential of at least 1 dyne/cm, measured at the time of treatment.

73. (original): An article as in claim 67, wherein the pattern of the treated area covers from at least about 10 to about 90 percent of the surface and the untreated area covers from at least about 90 to about 10 percent of the surface.

74. (original): An article as in claim 73, wherein the pattern of the treated area covers from at least about 40 to about 60 percent of the surface and the untreated area covers from at least about 60 to about 40 percent of the surface.

75. (original): An article as in claim 67, wherein pattern of the treated area comprises a geometric form.

76. (original): An article as in claim 75, wherein said geometric form is selected from a saw-tooth, a sine-wave, a herring-bone, a closed curve, a polygon, or any obvious equivalent thereof.

77. (original): An article as in claim 67, wherein the surface tension of the surface treatment is set to a predetermined level by increasing or decreasing the power of the treatment, by increasing or decreasing the exposure time of the treatment, or by increasing or decreasing the distance between the treatment source and the surface to which said treatment is applied.

78. (previously presented): An article of manufacture for providing a separable and removable segment, label or coupon, comprising: (i) a paper or film substrate optionally printed with indicia and having an upper and a lower surface; (ii) a thin film layer having an upper surface and a lower surface, the lower surface being adhesively secured, by a dry adhesive with release properties at a permanent interface A; to upper surface of (iii) a support layer; (iv) a removable segment, label or coupon, having edges and being defined in said thin film layer, and in said dry adhesive with release properties layer (ii) by a diecut extending through said layers (i) and (ii) but not through said support layer (iii) wherein the removable diecut piece is provided with a pattern of selective variable adhesion through variable surface-treatment of the lower surface of layer (ii) upper surface of support layer (iii) or both said surfaces by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof such that the adhesion at separable interface B is always less than the adhesion at permanent interface A and said removable diecut piece is removable.

79. (original): An article as in claim 78, wherein the pattern of the differentially treated area extends under the removable area defined by the diecut.

80. (original): An article as in claim 78, wherein the layer or layers comprise a polyester film, 0.2 to 7 mils thick.

81. (original): An article as in claim 78, wherein the substrate layer comprises paper stock of 15 to 150 # weight.

82. (canceled)

83. (previously presented): An article as in claim 78, wherein said treatment is carried out under conditions which produce a measurable differential of at least 1 dyne/cm, measured at the time of treatment.

84. (original): An article as in claim 78, wherein the pattern of the treated area covers from at least about 10 to about 90 percent of the surface and the untreated area covers from at least about 90 to about 10 percent of the surface.

85. (original): An article as in claim 84, wherein the pattern of the treated area covers from at least about 40 to about 60 percent of the surface and the untreated area covers from at least about 60 to about 40 percent of the surface.

86. (original): An article as in claim 78, wherein pattern of the treated area comprises a geometric form.

87. (original): An article as in claim 86, wherein said geometric form is selected from a saw-tooth, a sine-wave, a herring-bone, a closed curve, a polygon, or any obvious equivalent thereof.

88. (original): An article as in claim 78, wherein the surface tension of the surface treatment is set to a predetermined level by increasing or decreasing the power of the treatment, by increasing or decreasing the exposure time of the treatment, or by increasing or decreasing the distance between the treatment source and the surface to which said treatment is applied.

89. (original): An article as defined in claim 1 where the article includes a radio frequency transmitter buried in at least one of the article elements.

90. (original): An article as defined in claim 12 where the article includes a radio frequency transmitter buried in at least one of the article elements.

91. (original): An article as defined in claim 23 where the article includes a radio frequency transmitter buried in at least one of the article elements.

92. (original): An article as defined in claim 34 where the article includes a radio frequency transmitter buried in at least one of the article elements.

93. (original): An article as defined in claim 45 where the article includes a radio frequency transmitter buried in at least one of the article elements.

94. (original): An article as defined in claim 56 where the article includes a radio frequency transmitter buried in at least one of the article elements.

95. (original): An article as defined in claim 67 where the article includes a radio frequency transmitter buried in at least one of the article elements.

96. (original): An article as defined in claim 78 where the article includes a radio frequency transmitter buried in at least one of the article elements.

97. (previously presented): A method of making a removable polymer substrate laminate or a segment thereof which comprises (a) treating a polymer substrate with a surface treatment technique to selectively modify the surface in a predetermined pattern by applying no surface treatment in some areas and surface treatment in other areas by a corona treatment, flame treatment, plasma treatment or a combination thereof; (b) coating a portion of the treated surface of the product of step (a) with an adhesive and a breakaway layer; and (c) laminate a second substrate onto the adhesive and a breakaway layer the product of step (b).

98. (previously presented): An article as in claim 1, wherein the surface treatment is a corona treatment or a plasma treatment.

99 (previously presented): An article as in claim 34, wherein the surface treatment is a corona treatment or a plasma treatment.

100. (previously presented): An article as in claim 45 wherein the surface treatment is a corona treatment or a plasma treatment.

101. (previously presented): An article as in claim 67 wherein the surface treatment is a corona treatment or a plasma treatment.

102. (previously presented): A method as in claim 96 wherein the surface treatment is a corona treatment or a plasma treatment.